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Hiroyuki Kurimura

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

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jgardner@oblon.com

1 RECORD OF ORAL HEARING
2 UNITED STATES PATENT AND TRADEMARK OFFICE

3
4 BEFORE THE BOARD OF PATENT APPEALS
5 AND INTERFERENCES

6
7 *Ex Parte* HIROYUKI KURIMURA, JUN WATANABE,
8 TAKESHI ODA, and NORIHIRO SHIMIZU

9 Appeal 2010-000154
10 Application 10/549,574
11 Technology Center 1700

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13 Oral Hearing Held: June 9, 2010

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15 Before ADRIENE LEPIANE, HANLON, LINDA M. GAUDETTE, and
16 KAREN M. HASTINGS, *Administrative Patent Judges*.

17 APPEARANCES:

18
19 ON BEHALF OF THE APPELLANT:

20 JACOB A. DOUGHTY, ESQUIRE
21 Oblon, Spivak, McClelland, Maier & Neustadet, LLP
22 1940 Duke Street
23 Alexandria, Virginia 22314
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1 The above-entitled matter came on for hearing Wednesday, June 9,
2 2010, commencing at 9:20 a.m., at the U.S. Patent and Trademark Office,
3 600 Dulany Street, Alexandria, Virginia, before Sam Weston, a Notary
4 Public.

5 THE USHER: Good morning. Calendar No. 19, Appeal No. 2010-
6 000154, Mr. Doughty.

7 MR. DOUGHTY: Good morning.

8 JUDGE HANLON: Good morning.

9 MR. DOUGHTY: May I approach the reporter?

10 JUDGE HANLON: Yes, please.

11 MR. DOUGHTY: Thanks.

12 JUDGE HANLON: You have 20 minutes, and you may begin
13 whenever you're ready.

14 MR. DOUGHTY: Thank you. May it please the Board, my name is
15 Jacob Doughty, and I represent Hiroyuki Kurimura and his co-inventors,
16 who are the Appellants in this matter.

17 This Appeal relates to the rejection of the pending claims, as
18 anticipated and/or obvious, over the Moczygembe reference, Moczygembe
19 838. There were previously two Moczygembe references, and the Examiner
20 withdrew one of the rejections. Claim 1 is directed to a linear block
21 copolymer composition. The composition includes 55 to 95 mass percent of
22 a vinyl aromatic hydrocarbon, such as styrene, and 5 to 45 mass percent of a
23 conjugated diene monomer, such as butadiene, for example. The
24 composition includes a mixture of linear block copolymers. Each linear
25 block copolymer includes three polymer blocks with different molecular
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1 weights. Each linear block is given by the formula S-B-S. It includes the
2 components S-B-S, in which S is the vinyl -- is a polymer block, including
3 the aromatic hydrocarbon -- or vinyl aromatic hydrocarbon, and the B is a
4 polymer block that consists of conjugated diene monomer units. So we have
5 sort of styrene-based polymer blocks on the periphery, and we have a
6 butadiene polymer block that's a homopolymer block in the middle. That's
7 sort of the structure that we're talking about. And the composition has very
8 particular molecular weight characteristics, which are in the claim, but
9 would probably just muddy our discussion today.

10 The Moczygembe reference discloses a polymer obtained by charges
11 of vinyl aromatic hydrocarbon monomers and conjugated diene monomers.
12 The disclosed polymer composition is obtained by a particular sequence of
13 monomer charges. So the important feature of the Moczygembe reference in
14 terms of obtaining the desired polymer is the sequence of charges that are
15 used to obtain the copolymer. All of the charges in the Moczygembe
16 reference include vinyl aromatic hydrocarbon monomers or a mixture of
17 vinyl aromatic hydrocarbon monomers and conjugated diene monomers,
18 except for the last charge. So, basically, when you look at what they're
19 making in the Moczygembe reference, you'll have a styrene charge, a
20 styrene charge, a styrene and butadiene charge, a styrene and butadiene
21 charge, until you get to the last charge, which is a butadiene charge. And
22 then, after the butadiene charge, they add a coupling agent.

23 And so, basically, the goal is to obtain -- you have these polymer
24 chains that they've obtained, and then there's a coupling agent, and then they
25 can branch on and create branch copolymers, or radial copolymers, or even
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1 possibly, linear copolymers, also. So you'll have the structure of the blocks
2 that I have just mentioned, with a butadiene homopolymer block, and then a
3 coupling agent, and then a butadiene homopolymer block, and then the other
4 polymer blocks in the end, because the conjugated diene homopolymer
5 block is the last block added, okay, the resulting structure doesn't satisfy the
6 S-B-S that's in Claim 1. So because you have the butadiene being the last
7 block that's added, it's either going to be at the end, or it's going to be in the
8 middle with another butadiene block, separated by a coupling agent. So
9 you'll have butadiene, coupling agent, butadiene in the middle. You won't
10 have a block, butadiene, that's next to a styrene-containing block on both
11 sides, basically is what's going on.

12 JUDGE HASTINGS: I have a question.

13 MR. DOUGHTY: Sure.

14 JUDGE HASTINGS: The Examiner's position in the response to your
15 argument, on page 6 of the Examiner's Answer, is that the claims, since the
16 linear block copolymer composition comprises, the Examiner's position is
17 that it does not exclude a coupling agent, and that when you use the coupling
18 agent, the sequence of B-S, which is the butadiene, styrene, which also is not
19 excluded because you say that your styrene block comprises the vinyl, it
20 doesn't have to be just vinyl, then that the sequence B-S-B-B-S-B reads on
21 the S-B-S formula. What is your response to that?

22 MR. DOUGHTY: My response is that --

23 JUDGE HASTINGS: Why is that not correct?

24 MR. DOUGHTY: Well, my response is -- the important feature in the
25 claim is that the B block is consisting of conjugated diene monomer units.

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1 So basically what you have is the B block, which is joined to the S blocks,
2 okay? So by having the coupling agent, there is no -- there is no B block in
3 the Moczygembe reference that is joined on both sides to a vinyl aromatic
4 monomer component.

5 JUDGE HASTINGS: So basically, you think that consisting of, for
6 the B block, overrides the comprising of the overall composition?

7 MR. DOUGHTY: Right. It comprises the S-B-S structure. I mean
8 there can be other things in the periphery, but it has to have the S-B-S
9 structure in the compound. So basically, I mean that's the reason why the
10 invented -- or the invented compositions in Moczygembe don't anticipate, or
11 render obvious, the particular copolymer composition in Claim 1.

12 There was one interesting thing in the Examiner's Answer that I just
13 wanted to reference, and that was the Examiner's use of the polymers shown
14 in Table 8 of Moczygembe 838. And the thing I wanted to point out in
15 particular was that these are comparative examples, which are indicated in
16 Moczygembe to be inferior to the polymer compositions that are disclosed as
17 being the invented compositions in Moczygembe. And further, the -- so one
18 would expect -- one of ordinary skill in the art, in looking at the teachings of
19 Moczygembe, would not be led to these particular compositions, so I think
20 they're out of the realm of obviousness, for sure.

21 Then the question turns to whether they're anticipated by the
22 comparative compositions, and I would say that the Examiner's Answer, at
23 the very least, does not provide any sort of rationale for why one would
24 expect that the comparative copolymers in Moczygembe would also have
25 the molecular weight characteristics that are in the present claims in Claim 1.

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1 And I would draw attention, in particular, to the sequence of polymer
2 charges and the amounts in the Moczygembe reference, and the differences
3 that there are between polymer -- the monomer charge amounts in the
4 present application.

5 The present Application discloses sequences where the same
6 monomer charges are taking place, but there's different amounts of the
7 respective monomers that are charged and, as a result of that, you can have
8 different molecular weight characteristics, and some that fall within the
9 scope of Claim 1 and some that fall outside of the scope of Claim 1. So it's
10 not possible to say, just looking at the comparative examples in
11 Moczygembe, that reference -- those comparative examples would
12 necessarily satisfy the molecular weight characteristics that are in Claim 1.

13 So, with respect to the comparative examples, we would argue that
14 they can't be obvious because they're comparative examples, at the very
15 least, and that the Examiner's Answer, or the record to date, doesn't provide
16 a basis for concluding that those compounds that are in the comparative
17 examples of Moczygembe necessarily satisfy the requirements in Claim 1.

18 JUDGE HASTINGS: Well, I think the Examiner's position was that -
19 - he stated that those comparative examples are identical to the invention of
20 the reference, except for using the pure charges, giving rise to the pure
21 blocks. And he had already made the analysis as to why the molecular
22 weight appeared to fall within the distribution here.

23 MR. DOUGHTY: I guess I would say that they're not identical. I
24 mean just looking, charge for charge, and the amount that's charged, that's
25 what our position is.

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1 JUDGE HASTINGS: Is that argument on the record?

2 MR. DOUGHTY: With respect to --

3 JUDGE HASTINGS: With respect to the charges being different and
4 therefore the molecular weight is different?

5 MR. DOUGHTY: No. I mean the first time the Examiner raised the
6 issue of the comparative examples was in the Examiner's Answer.

7 Are there any questions?

8 JUDGE HANLON: No.

9 MR. DOUGHTY: Thank you very much for your time.

10 JUDGE HANLON: Thank you.

11 Whereupon, the proceedings at 9:28 a.m. were concluded.

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